



NBYCOMP
NearbyComputing

Ports & Container Terminals Use Case

Nearby Computing SL

HQ: Barcelona, Spain.



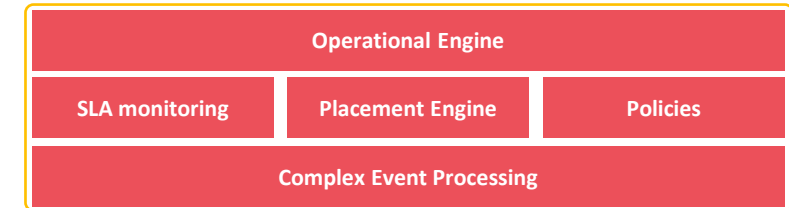
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Incorporated in 2018 as a spin-off of the Barcelona Supercomputing Center, a leading research center in Europe.

NearbyOne is the product based on our own IP on macro and micro-orchestration methods, a software platform enabling multi-domain end-to-end orchestration advanced services, on top of industry-leader solutions.

We deploy our technology through selected vendors and system integrators, fully supporting them through all the implantation and maintenance processes, with a long-term perspective .

Multi-tenant Orchestration with NearbyOne



End-to-end Orchestration

Infrastructure
Network
VNFs/APPs

Lifecycle Management

SLA monitoring
Business Policies

Key Shareholders

Strategic



Research Institutions



Partners



Global Partner & Reseller



Intel® Network Builder



Cisco Partner

H2020 consortiums



The Need for the Edge



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Challenges:

- Congestion and Traffic
- Container Tracking Management
- Environmental Sustainability
- Low Latency & Mission Criticality

Drivers:

- Shorten Waiting Times
- Optimize Traceability of Goods
- Enable Predictive Operations
- Transform into a Smart Port
- Coordination of Port Traffic

Benefits:

- Minimize Costs
- Improve Operational Efficiency
- Reduce Environmental Footprint
- Significant Time Savings
- Improved Safety and Security

Edge Analytics



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Edge Computing allows digital transformation of ports by automating critical processes such as tracking and managing huge volumes of containers in real time. This results to a rapid and streamlined procedure in accessing the port reducing the waiting times of the vehicles.

The deployment of Edge Computing enables optimization of sea traffic as well as anticipation of possible collisions by monitoring the ships' movements and locations offering maximum safety to both the personnel and the vehicles.

By leveraging the promise of 5G network to deliver ultra-fast and low latency communications, port operations are driven efficiently and productively by deploying drones for inspections, Automated Guided Vehicles (AGV) for transporting goods as well as remote control of port cranes.

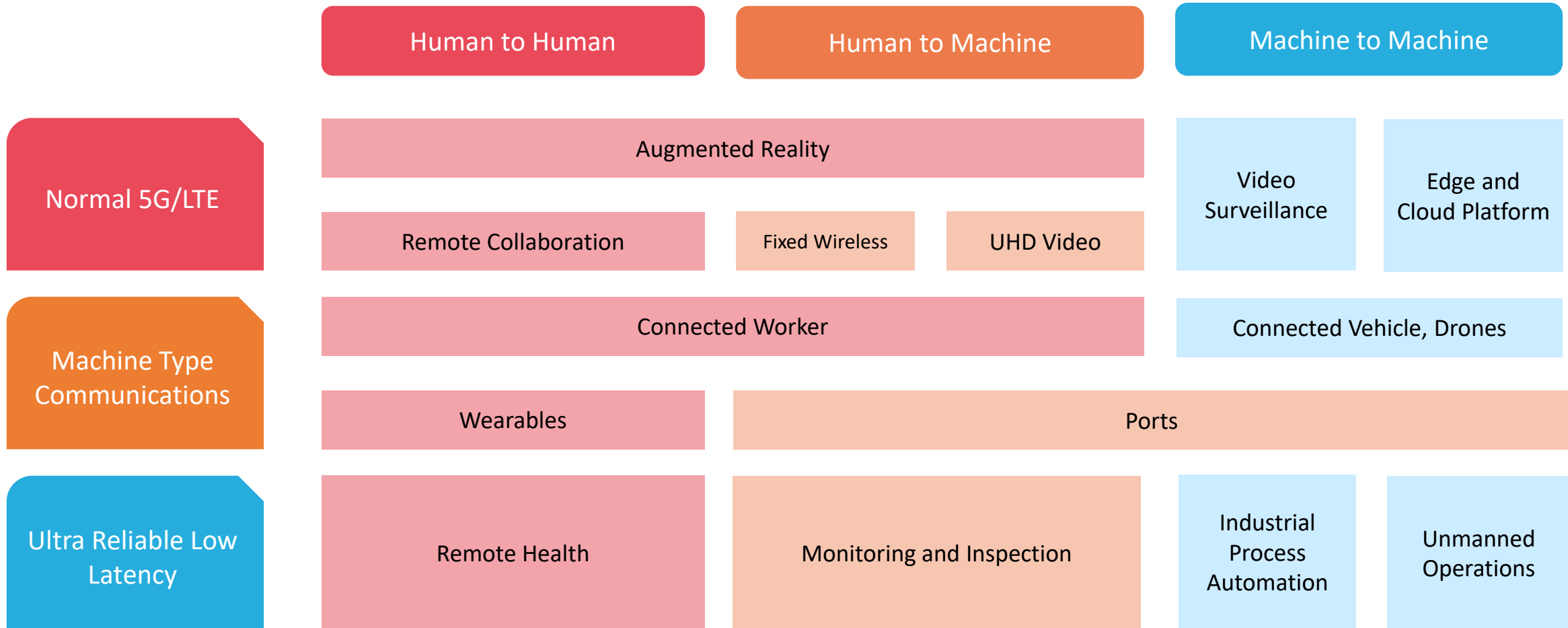
Effective use of the edge not only helps in improving safety and incident prevention within the port area but also optimizes the day-to-day activities such as management of docks, tug operations, and pilotage, among others.



Layout of Edge Applications



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Use Cases in Ports & Container Terminals



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13 services consolidated on top of NearbyOne's Edge Fabric

Traffic Management:

- Traffic Management and Monitoring
- License plate recognition

Worker Assist:

- PLC deployment on cranes
- Remote control of cranes through AR/VR for precise movements

Operational Efficiency:

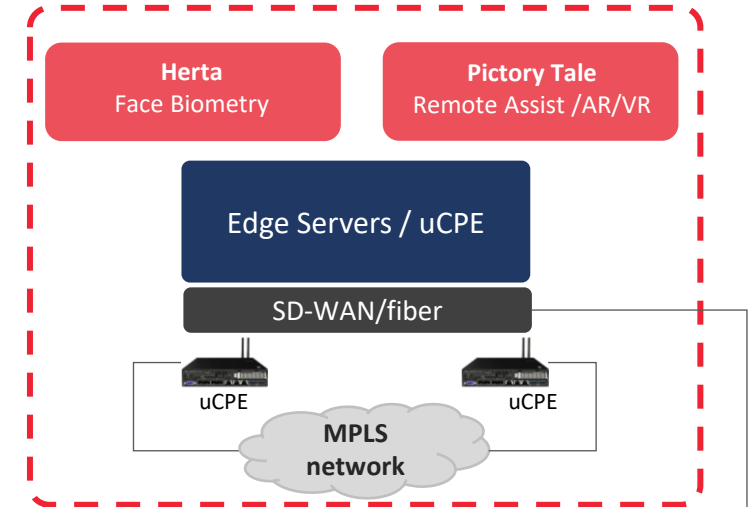
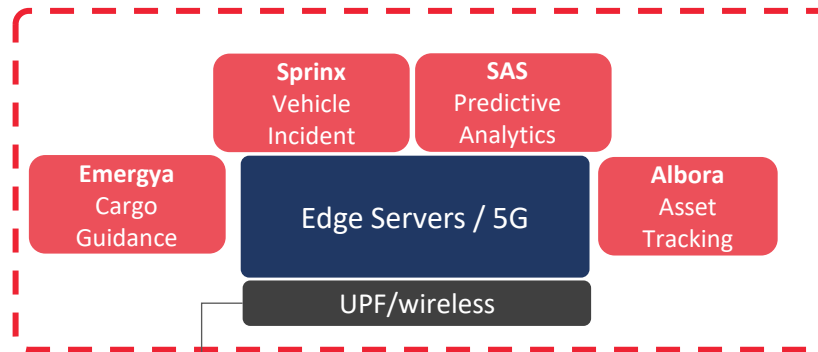
- Damage Inspection & Maintenance Insight
- Cargo recognition
- Automated Guided Vehicle

Security and Resilience:

- Drone deployment for real-time cargo track & trace
- Vehicle incident detection
- Face Identification for drivers and workers
- Perimetral security and access

Environmental Sensing:

- Air Quality Control and Monitoring
- Temperature Control



Wired and Wireless



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